

U.S.S.N. 09/867,046

Applicant thanks the Examiner for kindly indicating that claims 15-20 and 29-32 would be allowable if rewritten in independent form. Claims 15-20, 29 and 31-32 have been rewritten in independent form in the form of new claims 38-47, respectively. Applicant notes that although claim 30 was indicated as being allowable, because claim 30 stands rejected under 35 U.S.C. § 102(b), Applicant has treated claim 30 as if it had not received an indication of allowability. Applicant respectfully requests clarification of this inconsistency.

Claims 1-3, 5, 7, 13, 14, 21, 22, 27, 28 30, and 33 stand rejected under 35 U.S.C. § 102(b) over Liu et al. (U.S. Patent 6,403,465) ("Liu").

Applicant submits that the amendment to claims 1, 13, and 27 render moot the rejection of claims 1-3, 5, 7, 13, 14, 21, 22, 27, 28 30, and 33 under 35 U.S.C. § 102(b) over Liu and respectfully requests that it be withdrawn.

Claims 4, 6, 8-12, 23, and 33-37 stand rejected under 35 U.S.C. § 103 over Liu.

Liu discloses a method of manufacturing integrated circuits. Liu describes depositing various metal layers on a silicon-based substrate.

Applicant submits that the amendments to claims 1, 13, and 27 render moot the rejection of claims 4, 6, 8-12, 23, and 33-37 under 35 U.S.C. § 103 over Liu, and respectfully requests that it be withdrawn.

Applicant further submits that claims 4, 11, 12, 36 and 37 are distinguishable over Liu for at least the following additional reasons. When an obviousness rejection is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. See B.F. Goodrich Co. v. Aircraft Braking Sys. Corp., 72 F.3d 1577, 1582 (Fed. Cir. 1996). Here there is no such suggestion or motivation. Claim 4 is directed to a method of modifying a thermal barrier assembly that includes at least a portion of a casing selected from the group consisting of a window casing, door casing and curtain wall casing. Nothing in Liu teaches or suggests using the method disclosed therein in a method of modifying a thermal barrier assembly where the thermal barrier assembly includes at least a portion of a casing --let alone where the casing is a window casing, a door casing or a curtain wall casing. Thus, the skilled artisan would have no reason to employ the method of Liu in the manufacture of a thermal assembly for a casing in general or a window casing, door casing or curtain wall

U.S.S.N. 09/867,046

casing in particular. Moreover, because Liu does not teach anything about casings, Liu lacks a required element of claim 4. Accordingly, the prima facie case of obvious has not been made. Applicant submits, therefore, that the rejection of claim 4 under 35 U.S.C. § 103 over Liu is unwarranted and respectfully requests that it be withdrawn.

The Office action takes the position that, "the manner in which a device is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed limitations." Claim 4 is directed to a method, not an apparatus. In addition, claim 4 does not claim a device by an intended function. Rather, claim 4 claims a method that includes exposing a surface of a channel of a thermal barrier assembly to a plasma comprising metal moieties, where the thermal barrier assembly includes at least a portion of a casing. The method is not taught in Liu. Liu exposes semiconductor substrates to a plasma. Liu does not expose a channel of a thermal barrier assembly to a plasma where the thermal barrier assembly includes at least a portion of a casing. Liu also does not suggest exposing such a channel to a plasma. Thus, the basis set forth in the Office action in support of the rejection of claim 4 under 35 U.S.C. § 103 over Liu is not sound. For at least this additional reason Applicant submits that the rejection of claim 4 under 35 U.S.C. § 103 over Liu is unwarranted and cannot stand.

Claims 6, 8-12, 23 and 33-37 are distinguishable under 35 U.S.C. § 103 over Liu for at least the same reasons set forth above in distinguishing claim 4.

If the rejection of claims 4, 6, 8-12, 23, and 33-37 under 35 U.S.C. § 103 over Liu is maintained, Applicant respectfully requests that the Examiner provide the basis of support for the rejection by reference to the column and line number(s) in Liu at which the support can be found.

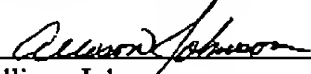
The Examiner is invited to telephone the undersigned if a teleconference interview would facilitate prosecution of this application on the merits.

U.S.S.N. 09/867,046

Please charge any additional fees owing or credit any overpayment made to  
Deposit Account No. 06-2241.

Date: November 1, 2002

Respectfully submitted,

  
Allison Johnson  
Reg. No. 36,173

Allison Johnson, P.A.  
6016 Logan Ave. S.  
Minneapolis, MN 55419  
Telephone (612) 861-8621  
Facsimile (612) 861-8628

## TAB 1

U.S.S.N. 09/867,046

**MARKED-UP VERSION OF THE AMENDED AND NEW CLAIMS**

1.(Amended) A method of modifying a thermal barrier assembly comprising a channel, said method comprising:

exposing a surface of said channel to a plasma comprising metal moieties;

and

depositing said metal moieties on the surface of said channel,

wherein said thermal barrier assembly comprises at least a portion of a casing.

4.(Amended) The method of claim 1, wherein said thermal barrier assembly comprises at least a portion of a casing [structure] selected from the group consisting of a window casing, door casing and curtain wall casing.

13.(Amended) A thermal barrier assembly comprising:

a channel; and

[comprising] a layer of metal bonded to a surface of said channel,

said metal having been deposited on said channel surface from a plasma,

wherein said thermal barrier assembly comprises at least a portion of a casing.

25.(Amended) A window casing comprising the thermal barrier assembly of claim 38 [15].

26.(Amended) A door casing comprising the thermal barrier assembly of claim 38 [15].

27.(Amended) A process for making a thermal barrier assembly, said process comprising:

exposing a surface of a channel of a thermal barrier assembly to a plasma comprising metal moieties; and

U.S.S.N. 09/867,046

depositing said metal moieties on the surface of said channel,  
wherein said thermal barrier assembly comprises at least a portion of a  
casing.

38.(New) A thermal barrier assembly comprising:  
a channel comprising a layer of metal bonded to a surface of said  
channel, said metal having been deposited onto said channel surface from  
a plasma; and  
an adhesive composition bonded to the modified surface of said  
channel, said adhesive composition comprising polyurethane.

39.(New) A thermal barrier assembly comprising:  
a channel comprising a layer of metal bonded to a surface of said channel,  
said metal having been deposited onto said channel surface from a plasma; and  
an adhesive composition bonded to the modified surface of said channel,  
said adhesive composition exhibiting no greater than 5 % shrinkage when bonded  
to said surface and subjected to the % Shrinkage Test Method.

40.(New) The thermal barrier assembly of claim 39, wherein said adhesive  
composition exhibits no greater than 1 % shrinkage when bonded to said surface and  
subjected to the % Shrinkage Test Method.

41.(New) A thermal barrier assembly comprising:  
a channel;  
a layer of metal bonded to a surface of said channel, said metal layer  
having been deposited onto said channel surface from a plasma; and  
an adhesive composition bonded to the modified surface of said channel,  
said adhesive composition exhibiting a shear strength of at least 2500 psi shear  
strength at room temperature after being subjected to the Thermal Cycling  
Method.

U.S.S.N. 09/867,046

42.(New) The thermal barrier assembly of claim 41, wherein said adhesive composition exhibits a shear strength of at least 3000 psi at room temperature after being subjected to the Thermal Cycling Method.

43.(New) The thermal barrier assembly of claim 41, wherein said adhesive composition exhibits a shear strength of at least 7500 psi at room temperature after being subjected to the Thermal Cycling Method.

44.(New) A process for making a thermal barrier assembly, said process comprising:

providing a thermal barrier assembly comprising a channel, and a surface treatment disposed on a surface of said channel;  
exposing said treated surface of said channel to a plasma comprising metal moieties;  
removing at least a portion of said surface treatment; and  
depositing said metal moieties on the surface of said channel.

45.(New) The process of claim 44, wherein said surface treatment is selected from the group consisting of polyester, melamine, mill finish, conversion coating, primer, paint, acrylic, polyester, enamel, polyurethane, fluoropolymer, anodic finishes and combinations thereof.

46.(New) A process for making a thermal barrier assembly, said process comprising:

exposing a surface of a channel of a thermal barrier assembly to a plasma comprising metal moieties;  
depositing said metal moieties on the surface of said channel; and  
contacting the metal surface of said channel with an adhesive composition comprising polyurethane.

47.(New) A casing comprising the thermal barrier assembly of claim 13.

U.S.S.N. 09/867,046

48.(New) The method of claim 1, wherein said thermal barrier assembly comprises a unitary structure.

49.(New) A thermal barrier assembly comprising:  
a first structural component;  
a second structural component;  
a channel disposed between said first structural component and said second structural component,  
a layer of metal bonded to a surface of said channel, said metal having been deposited on said channel surface from a plasma; and  
an adhesive composition disposed in said channel,  
said first structural component being bonded to said second structural component through said adhesive composition.

50.(New) The method of claim 1, wherein said channel comprises a surface treatment disposed on said channel prior to exposing said channel surface to said plasma.

51.(New) A casing comprising a thermal barrier comprising:  
a thermal barrier assembly comprising  
a channel, and  
a layer of metal bonded to a surface of said channel, said metal layer having been deposited onto said channel surface from a plasma; and  
an adhesive composition bonded to the modified surface of said channel.

52.(New) A window casing, door casing, or curtain wall casing comprising the casing of claim 51.



## TAB 2

U.S.S.N. 09/867,046

CLEAN VERSION OF THE AMENDED AND NEW CLAIMS

A1 ~~Sub 31~~ 1. A method of modifying a thermal barrier assembly comprising a channel, said method comprising:  
exposing a surface of said channel to a plasma comprising metal moieties;  
and  
depositing said metal moieties on the surface of said channel,  
wherein said thermal barrier assembly comprises at least a portion of a casing.

A2 ~~Sub 31~~ 4. The method of claim 1, wherein said thermal barrier assembly comprises at least a portion of a casing selected from the group consisting of a window casing, door casing and curtain wall casing.

A3 ~~Sub 31~~ 13. A thermal barrier assembly comprising:  
a channel; and  
a layer of metal bonded to a surface of said channel,  
said metal having been deposited on said channel surface from a plasma,  
wherein said thermal barrier assembly comprises at least a portion of a casing.

A4 ~~Sub 31~~ 25. A window casing comprising the thermal barrier assembly of claim 38.

26. A door casing comprising the thermal barrier assembly of claim 38.

27. A process for making a thermal barrier assembly, said process comprising:  
exposing a surface of a channel of a thermal barrier assembly to a plasma comprising metal moieties; and  
depositing said metal moieties on the surface of said channel,  
wherein said thermal barrier assembly comprises at least a portion of a casing.

U.S.S.N. 09/867,046

Sub 31

A5

38. A thermal barrier assembly comprising:  
a channel comprising a layer of metal bonded to a surface of said channel, said metal having been deposited onto said channel surface from a plasma; and  
an adhesive composition bonded to the modified surface of said channel, said adhesive composition comprising polyurethane.
39. A thermal barrier assembly comprising:  
a channel comprising a layer of metal bonded to a surface of said channel, said metal having been deposited onto said channel surface from a plasma; and  
an adhesive composition bonded to the modified surface of said channel, said adhesive composition exhibiting no greater than 5 % shrinkage when bonded to said surface and subjected to the % Shrinkage Test Method.
40. The thermal barrier assembly of claim 39, wherein said adhesive composition exhibits no greater than 1 % shrinkage when bonded to said surface and subjected to the % Shrinkage Test Method.
41. A thermal barrier assembly comprising:  
a channel;  
a layer of metal bonded to a surface of said channel, said metal layer having been deposited onto said channel surface from a plasma; and  
an adhesive composition bonded to the modified surface of said channel, said adhesive composition exhibiting a shear strength of at least 2500 psi shear strength at room temperature after being subjected to the Thermal Cycling Method.
42. The thermal barrier assembly of claim 41, wherein said adhesive composition exhibits a shear strength of at least 3000 psi at room temperature after being subjected to the Thermal Cycling Method.

U.S.S.N. 09/867,046

43. The thermal barrier assembly of claim 41, wherein said adhesive composition exhibits a shear strength of at least 7500 psi at room temperature after being subjected to the Thermal Cycling Method.

44. A process for making a thermal barrier assembly, said process comprising:  
providing a thermal barrier assembly comprising a channel, and a surface treatment disposed on a surface of said channel;  
exposing said treated surface of said channel to a plasma comprising metal moieties;  
removing at least a portion of said surface treatment; and  
depositing said metal moieties on the surface of said channel.

45. The process of claim 44, wherein said surface treatment is selected from the group consisting of polyester, melamine, mill finish, conversion coating, primer, paint, acrylic, polyester, enamel, polyurethane, fluoropolymer, anodic finishes and combinations thereof.

46. A process for making a thermal barrier assembly, said process comprising:  
exposing a surface of a channel of a thermal barrier assembly to a plasma comprising metal moieties;  
depositing said metal moieties on the surface of said channel; and  
contacting the metal surface of said channel with an adhesive composition comprising polyurethane.

47. A casing comprising the thermal barrier assembly of claim 13.

48. The method of claim 1, wherein said thermal barrier assembly comprises a unitary structure.

49. A thermal barrier assembly comprising:

U.S.S.N. 09/867,046

AS  
cont

a first structural component;  
a second structural component;  
a channel disposed between said first structural component and said second structural component,  
a layer of metal bonded to a surface of said channel, said metal having been deposited on said channel surface from a plasma; and  
an adhesive composition disposed in said channel,  
said first structural component being bonded to said second structural component through said adhesive composition.

cont.  
B<sup>m</sup>

50. The method of claim 1, wherein said channel comprises a surface treatment disposed on said channel prior to exposing said channel surface to said plasma.

51. A casing comprising a thermal barrier comprising:  
a thermal barrier assembly comprising  
a channel, and  
a layer of metal bonded to a surface of said channel, said metal layer having been deposited onto said channel surface from a plasma, and  
an adhesive composition bonded to the modified surface of said channel.

52. A window casing, door casing, or curtain wall casing comprising the casing of claim 51.